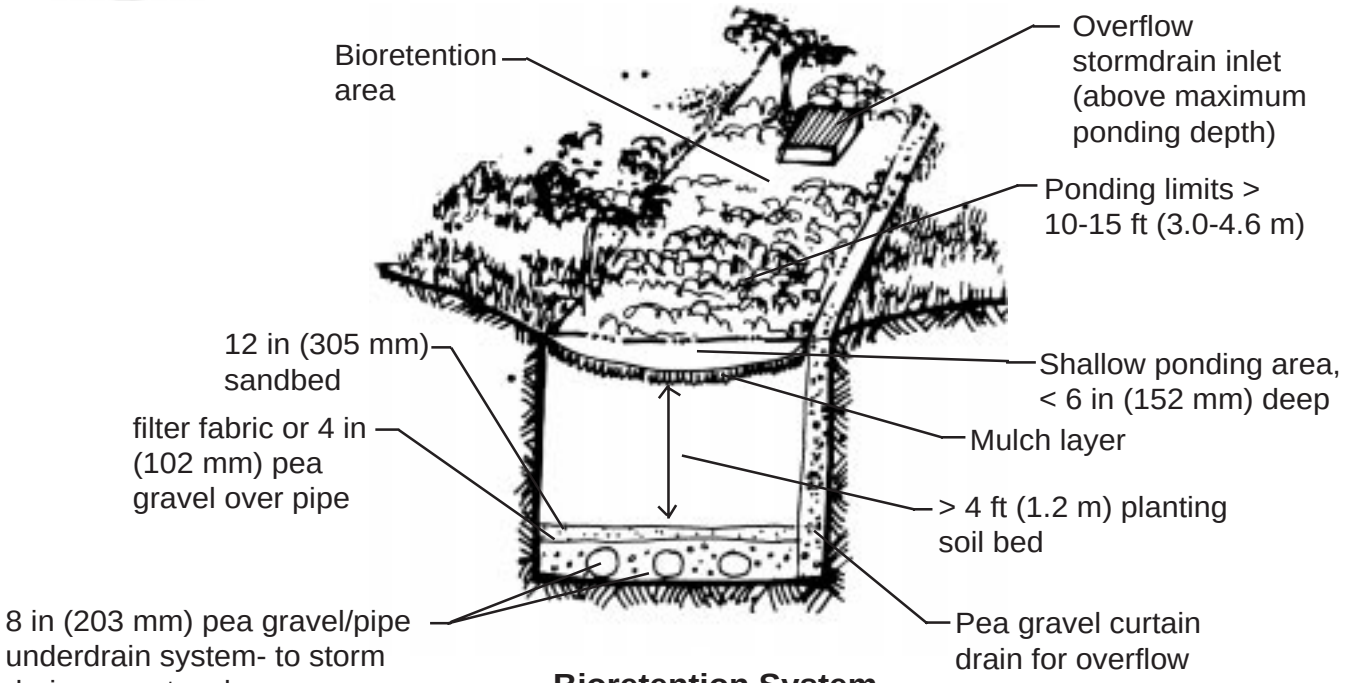
PRIMARY USE: To filter runoff stored in a shallow depression.
ADDITIONAL USES:

BIORETENTION SYSTEM

What is it? Originally developed by Prince George's County, Maryland, the bioretention system uses plantings in a conditioned planting soil bed to treat and manage stormwater runoff. As a system it utilizes a flow regulation structure, a pretreatment grass channel or other filter strip, a sand bed, a pea gravel overflow treatment drain, a shallow ponding area, a surface organic mulch layer, a planting soil bed, plant material, a gravel underdrain system, and an overflow system.

Purpose

The bioretention system is an alternative to conventional BMP structures. It is highly applicable to residential uses in community open space or private lots. The bioretention system is very appropriate for treatment of parking lot runoff, roadways where sufficient space accommodates off-line implementation, and pervious areas such as golf courses.



Bioretention System
Perspective / Section View

Limitations

Not applicable to a highly urbanized setting where impervious surfaces comprise 95% or more of the area.

Materials

Sand, pea gravel, mulch, plants (trees, shrubs, grass), perforated pipe, overflow storm drain.

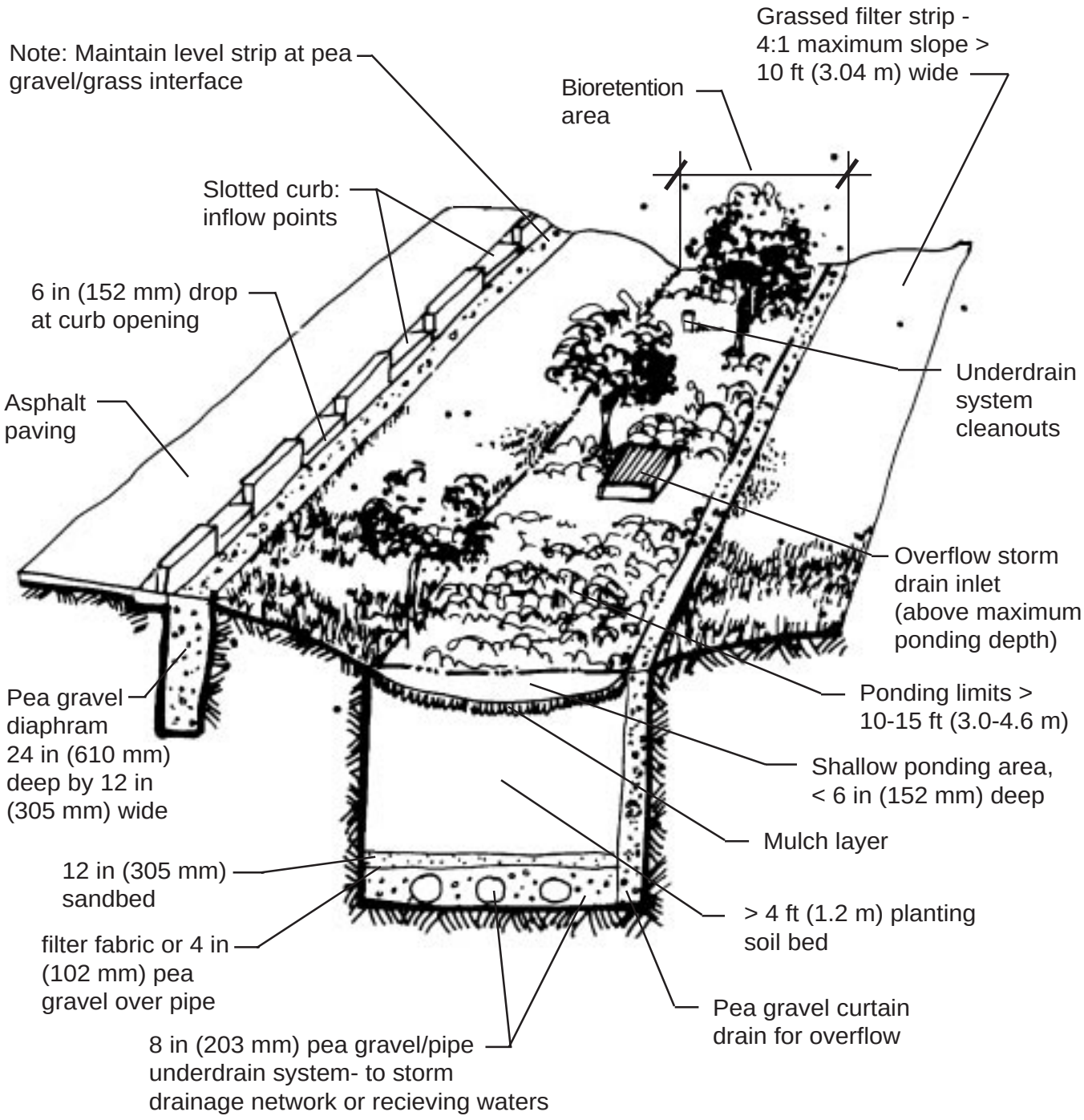
Installation

This is a water quality control practice and therefore is generally suitable for off-line location only. Online application may be possible where there is a limited drainage area and there is insufficient space to create a diversion water quality volume (WQV). Under these circumstances the designer must allow for larger storms through adequate erosion control measures and provision of overflow.

Source: Design for Stormwater Filtering Systems, Center for Watershed Protection.

BIORETENTION SYSTEM

Additional Drawings:



Note: At soil / sand interface, roto-till approximately 6 in (152 mm) of sand/soil to avoid sharp edge

Bioretention System
Perspective / Section View

Source: Design for Stormwater Filtering Systems, Center for Watershed Protection.